WHAT IS CLAIMED IS:

1. A method including:

detecting heart contractions over a time period;

obtaining a time-domain first signal representing time intervals between the detected heart contractions;

filtering the first signal to obtain a time-domain second signal including frequency components substantially in a first frequency band, wherein the second signal is influenced by both sympathetic and parasympathetic components of an autonomic nervous system;

filtering the first signal to obtain a time-domain third signal including frequency components substantially in a second frequency band, wherein the third signal is influenced by the parasympathetic component of the autonomic nervous system and not substantially influenced by the sympathetic component of the autonomic nervous system; and

providing an indication associated with a balance between the sympathetic and parasympathetic components of the autonomic nervous system based on the time-domain second and third signals.

2. The method of claim **1**, further including obtaining a variance of at least one of the second and third signals.

3. The method of claim **1**, further including squaring at least one of the second and third signals.

4. The method of claim **3**, further including lowpass filtering the squared one of the second and third signals.

5. The method of claim **1**, further including:

obtaining a variance of each of the second and third signals; and

ratioing the variance of the second and third signals.

6. The method of claim **5**, in which obtaining the variance of each of the second and third signals includes:

squaring each of the second and third signals; and

lowpass filtering the squared second and third signals.

7. The method of claim **5**, further including lowpass filtering the ratioed variance of the second and third signals.

8. The method of claim **5**, in which providing an indication associated with an autonomic nervous system includes extracting a signal feature of the ratioed variance of the second and third signals.

9. The method of claim **1**, in which filtering the first signal to obtain a time-domain second signal includes bandpass filtering using a lowpass cutoff frequency that is approximately equal to 0.15 Hz and a highpass cutoff frequency that is approximately equal to 0.04 Hz.

10. The method of claim **1**, in which filtering the first signal to obtain a time-domain third signal includes bandpass filtering using a lowpass cutoff frequency that is approximately equal to 0.40 Hz and a highpass cutoff frequency that is approximately equal to 0.15 Hz.

11. The method of claim **1**, in which detecting heart contractions includes detecting ventricular heart contractions.

12. The method of claim **1**, in which providing an indication associated with a balance between the sympathetic and parasympathetic components of the autonomic nervous system includes selecting a time period on which the indication is based by comparing intervals between heart contractions, during the time period, to a predetermined criterion.

13. The method of claim **12**, in which selecting the time period on which the indication is based includes comparing intervals between heart contractions, during the time period, to a maximum value and an average value.

14. The method of claim **12**, in which selecting the time period on which the indication is based is performed by determining when a patient is asleep or resting and using the selected time period for providing the indication associated with the autonomic nervous system.

15. The method of claim **1**, further including providing therapy to the heart based on the indication associated with the balance between the sympathetic and parasympathetic components of the autonomic nervous system.

16. The method of claim **15**, in which providing therapy includes providing antitachyarrhythmia therapy.

17. The method of claim **16**, in which providing antitachyarrhythmia therapy includes providing antitachyarrhythmia pacing.

18. The method of claim **16**, in which providing antitachyarrhythmia therapy includes providing an antiarrhythmic drug.

19. The method of claim **1**, in which obtaining a time-domain first signal representing time intervals between the detected heart contractions includes:

detecting R-wave peaks;

measuring time intervals between R-wave peaks;

providing a continuous-time R-R interval signal based on the measured time intervals between R-wave peaks; and

sampling the continuous-time R-R interval signal using a plurality of sample points that, when the sample points span a pair of R-R intervals, are weighted according to a time associated with each R-R interval in the pair of R-R intervals.

20. A method including:

detecting heart contractions over a time period;

obtaining a time-domain first signal representing time intervals between the detected heart contractions;

bandpass filtering the first signal, using a lowpass cutoff frequency that is approximately equal to 0.15 Hz and a highpass cutoff frequency that is approximately equal to 0.04 Hz, to obtain a time-domain low frequency (LF) signal;

bandpass filtering the first signal, using a lowpass cutoff frequency that is approximately equal to 0.40 Hz and a highpass cutoff frequency that is approximately equal to 0.15 Hz, to obtain a time-domain high frequency (HF) signal; and

obtaining variances of the LF and HF signals; and

ratioing the variances of the LF and HF signals to obtain an LF/HF ratio signal.

21. The method of claim **20**, in which obtaining the variances includes squaring the LF and HF signals to obtain squared LF and HF signals, and lowpass filtering the squared LF and HF signals.

22. The method of claim **20**, in which ratioing the variances of the LF and HF signals further includes lowpass filtering the LF/HF ratio signal to provide the indication of the balance between the sympathetic and parasympathetic components of the autonomic nervous system.

23. A system including:

a heart contraction detection module, providing a heart rate interval signal carrying information regarding intervals between heart contractions;

a low frequency (LF) bandpass filter, coupled to the detection module for receiving the heart rate interval signal, the LF bandpass filter providing a time-domain LF signal output that is influenced by both sympathetic and parasympathetic components of an autonomic nervous system;

a high frequency (HF) bandpass filter, coupled to the detection module for receiving the heart rate interval signal, the HF bandpass filter providing a time-domain HF signal output having higher frequency components than the LF signal output, the HF signal output being influenced by the parasympathetic component of the autonomic nervous system and not substantially influenced by the sympathetic component of the autonomic nervous system;

an LF variance module coupled to the LF bandpass filter for receiving the LF signal, the LF variance module providing a resulting LF variance signal;

a HF variance module, coupled to the HF bandpass filter for receiving the HF signal, the HF variance module providing a resulting HF variance signal; and

an autonomic balance indicator module, coupled to the LF and HF variance modules, and providing an indication of a balance between sympathetic and parasympathetic components of the autonomic nervous system based on the LF and HF variance signals.

24. The system of claim **23**, further including a ratioing module, coupled to each of the LF and HF variance modules for receiving the LF and HF variance signals,

and providing an output ratio of the LF and HF variance signals, and in which the autonomic balance indicator is coupled to the LF and HF variance modules through the ratioing module, and in which the autonomic balance indicator provides an indication of the balance between sympathetic and parasympathetic components of the autonomic nervous system based on the ratio of the LF and HF variance signals provided by the ratioing circuit.

25. The system of claim **24**, further including a lowpass filter, coupled to the ratioing circuit for receiving and filtering the ratio of the LF and HF variance signals for output to the autonomic balance indicator module.

26. The system of claim **23**, in which the LF bandpass filter includes a lowpass cutoff frequency that is approximately equal to 0.15 Hz and a highpass cutoff frequency that is approximately equal to 0.04 Hz.

27. The system of claim **23**, in which the HP bandpass filter includes a lowpass cutoff frequency that is approximately equal to 0.40 Hz and a highpass cutoff frequency that is approximately equal to 0.15 Hz.

28. The system of claim **23**, further including a therapy module, adapted to be coupled to a heart, the therapy module providing therapy to the heart based at least in part on the indication of the balance between the sympathetic and parasympathetic components of the autonomic nervous system.

29. The system of claim **23**, further including a sleep detector module, coupled to the heart contraction detection module and the autonomic balance indicator module, the sleep detector module selecting a period of time for evaluating autonomic balance based on detected time intervals between heart contractions.

30. The system of claim **23**, in which the heart rate contraction detection module includes a R-R interval sampling and filter module providing a sampled data heart rate interval signal including R-R interval information.

31. The system of claim **23**, in which the heart rate contraction detection module includes a means for performing the function of sampling a continuous-time R-R interval signal and providing a filtered sampled data heart rate interval signal output including R-R interval information.

32. A system including:

a heart contraction detection module, providing a heart rate interval signal carrying information regarding intervals between heart contractions;

a bandpass filter, coupled to the detection module for receiving the heart rate interval signal, the bandpass filter providing a time-domain bandpass filtered signal output;

an variance module coupled to the bandpass filter for receiving the bandpass filtered signal, the variance module providing a resulting variance signal;

an autonomic balance indicator module, coupled to the variance module, and providing an indication of a balance between sympathetic and parasympathetic components of an autonomic nervous system, based on the variance signal; and

an antitachyarrhythmia therapy module, adapted to be coupled to a heart, the therapy module providing antitachyarrhythmia therapy to the heart based at least in part on the indication of the balance between the sympathetic and parasympathetic components of the autonomic nervous system.